

Installation, Operation

Packaged Terminal Air Conditioner



PTCH070/PTHH070(7,000 Btuh)
PTCH090/PTHH090(9,000 Btuh)
PTCH120/PTHH120(12,000 Btuh)
PTCH150/PTHH150(15,000 Btuh)

0150506194 C

General Information

NOTICE:

Warnings and Cautions appear in appropriate sections throughout this manual. Read these carefully.

WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

CAUTION

Indicates a situation that may result in equipment or property-damage-only accidents.

Overview of Manual

Note: One copy of this document ships with each unit and is customer property. It must be retained by the customer.

This booklet describes proper installation and operation procedures for PTACs. By carefully reviewing the information within this manual and following the instructions, the risk of improper operation and/or component damage will be minimized.

It is important that periodic maintenance be performed to help assure trouble free operation. Should equipment failure occur, contact a service organization with qualified, experienced HVAC technicians to properly diagnose and repair this equipment.

Responsible Refrigerant Practices!

The manufacturer believes that responsible refrigerant practices are important to the environment, our customers, and the air conditioning industry.

All technicians who handle refrigerants must be certified. The Federal Clean Air Act (Section 608) sets forth the requirements for handling, recovering, recycling and reclaiming of certain refrigerants and the equipment that is used in these service procedures.

In addition, some states or municipalities may have additional requirements that must also be adhered to for responsible management of refrigerants. Know the applicable laws and follow them.

CAUTION

Use Copper Conductors Only!

Unit terminals are not designed to accept other types of conductors. Failure to use copper conductors may result in equipment damage.

WARNING

Hazardous Voltage with Capacitors!

Disconnect all electric power, including remote disconnects before servicing. Follow proper lockout/tagout procedures to ensure the power can not be inadvertently energized. Failure to disconnect power before servicing could result in death or serious injury.

Disconnect all electric power, including remote disconnects and discharge all motor start/run capacitors before servicing. Follow proper lockout/tagout procedures to ensure the power cannot be inadvertently energized. Verify with an appropriate voltmeter that all capacitors have discharged. Failure to disconnect power and discharge capacitors before servicing could result in death or serious injury.

General Information

Refrigerant Handling Procedures



WARNING **Contains Refrigerant!**

System contains oil and refrigerant under high pressure. Recover refrigerant to relieve pressure before opening the system. See unit nameplate for refrigerant type. Do not use non-approved refrigerants, refrigerant substitutes, or refrigerant additives.

Failure to follow proper procedures or the use of non-approved refrigerants, refrigerant substitutes, or refrigerant additives could result in death or serious injury or equipment damage.

Recover and Recycle Refrigerants

Never release refrigerant to the atmosphere!

Always recover and/or recycle refrigerant for reuse, reprocessing (reclaimed), or properly dispose if removing from equipment.

Always determine the recycle or reclaim requirements of the refrigerant before beginning the recovery procedure.

Obtain a chemical analysis of the refrigerant if necessary.

Questions about recovered refrigerant and acceptable refrigerant quality standards are addressed in ARI Standard 700.

Refrigerant Handling and Safety

Consult the manufacturer's material safety data sheet (MSDS) for information on refrigerant handling to fully understand health, safety, storage, handling, and disposal requirements.

Use only approved containment vessels and refer to appropriate safety standards. Comply with all applicable transportation standards when shipping refrigerant containers.

Service Equipment and Procedures

To minimize refrigerant emissions while recovering refrigerant, use the manufacturer's recommended recycling equipment per the MSDS.

Use equipment and methods which will pull the lowest possible system vacuum while recovering and condensing refrigerant. Equipment capable of pulling a vacuum of less than 1,000 microns (1.0 mm) of mercury is recommended.

Do not open the unit to the atmosphere for service work until refrigerant is fully removed/recovered.

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Model Number Description

Each Packaged Terminal Air Conditioner/Heat Pump is assigned a multiple-character alphanumeric model number that precisely identifies each unit.

An explanation of the identification code that appears on the unit nameplate is shown below.

The model number helps owner/operator, installing contractors, and service technicians to define the operation, components and options for a specific unit.

Refer to the model number printed on the equipment nameplate when ordering replacement parts or requesting service.

P T C H 0 9 0 1 * A B

1 2 3 4 5 6 7 8 9 10 11

Digits 1, 2—Packaged Terminal Air Conditioner

Digit 3—Product Type

C = Air Conditioner with auxiliary heat

H = Heat Pump

Digit 4—Haier Brand

Digit 5, 6, 7—Unit Cooling Capacity

070 = 7,000 Btu

090 = 9,000 Btu

120 = 12,000 Btu

150 = 15,000 Btu

Digit 8—Main Power Supply

1 = 230-208V/60Hz/1phase

2 = 265V/60Hz/1phase

4 = 115V/60Hz/1phase (Hydronic Only)

Digit 9 — Auxiliary Heat Capacity

N = No Heater

2 = 2kw

3 = 3kw

5 = 5kw

U = Universal for 2,3,5kw

H = Hydronic(ships with no front cover & no electric heater)

Digit 10 — Unit Features

A = Standard

C = Corrosion Resistant

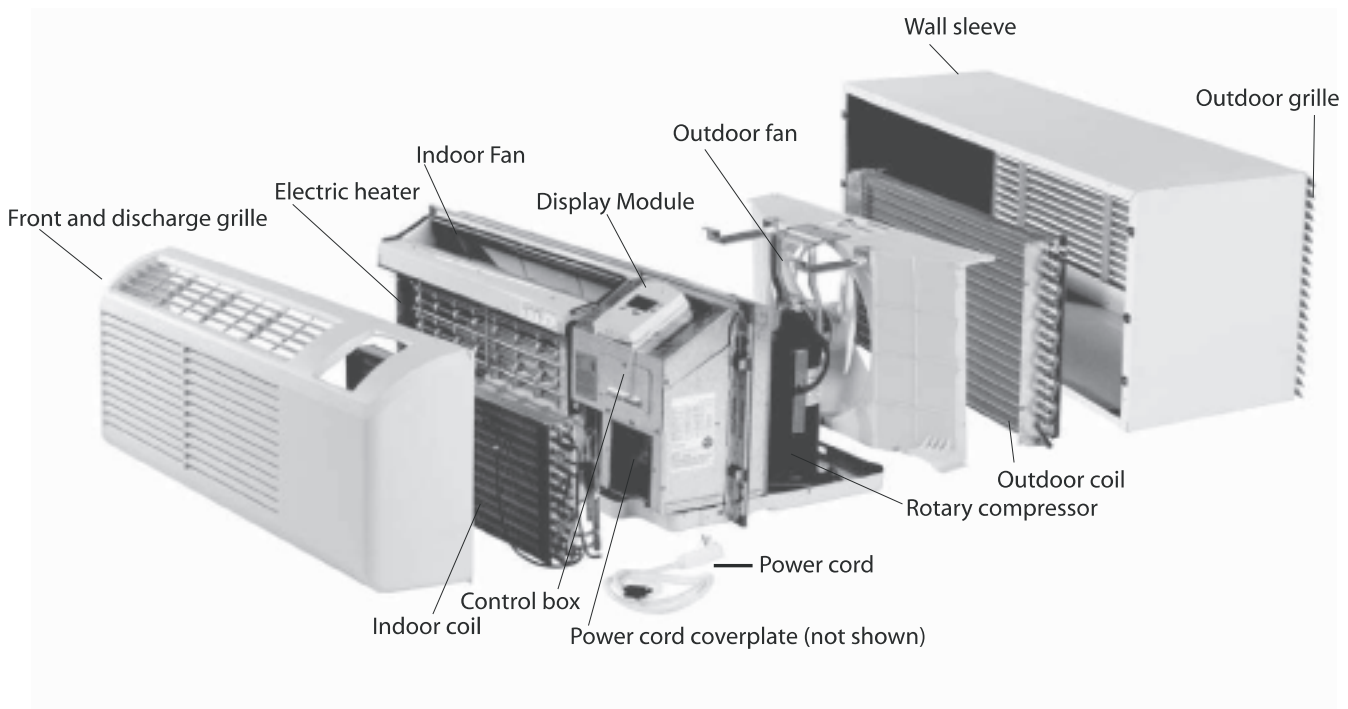
P = Internal Condensate Pump

Digit 11—Minor Design Sequence

C

D

E



Model Number Description

Table 1. Unit accessory model numbers

Description	Part Number
Architectural Grilles	
ARCHITECTURAL ALUMINUM GRILLE	HAAAGL01
Filters	
SPARE FILTERS 10 PACK	HAFLTR09
Hard Wire Kit	
HARD WIRE KIT	HAHWRK01
Leveling Legs	
LEVELING LEG	HALVLG01
Stamped grille	
STAMPED ALUMINUM GRILLE - SINGLE PACK	HASAGL01
STAMPED ALUMINUM GRILLE - TEN PACK	HASAGL02
Wall Sleeve	HAWSLV01
Power Cord	
UNIVERSAL POWER CORD 230 VOLT - 15 AMP	HAPCRD01
UNIVERSAL POWER CORD 230 VOLT - 20 AMP	HAPCRD02
UNIVERSAL POWER CORD 230 VOLT - 30 AMP	HAPCRD03
UNIVERSAL POWER CORD 265 VOLT - 15 AMP	HAPCRD04
UNIVERSAL POWER CORD 265 VOLT - 20 AMP	HAPCRD05
UNIVERSAL POWER CORD 265 VOLT - 30 AMP	HAPCRD06
Escutcheon Cover⁽ⁱ⁾	
ESCUTCHEON COVER FOR FRONT PANEL (HAIER LOGO)	HAHCVR01
Connector for Hardwire⁽ⁱⁱ⁾	
CONNECTOR FOR HARDWIRE KIT 208/230V - 15 AMP	HACNHK11
CONNECTOR FOR HARDWIRE KIT 208/230V - 20 AMP	HACNHK12
CONNECTOR FOR HARDWIRE KIT 208/230V - 30 AMP	HACNHK13
CONNECTOR FOR HARDWIRE KIT 265V - 15 AMP	HACNHK21
CONNECTOR FOR HARDWIRE KIT 265V - 20 AMP	HACNHK22
CONNECTOR FOR HARDWIRE KIT 265V - 30 AMP	HACNHK23
Subbase⁽ⁱⁱⁱ⁾ (iv)	
UNIVERSAL SUBBASE	HASUB01

(i) This escutcheon cover should be ordered whenever the display module is wall mounted or a thermostat or third party provider unit controls are ordered. This escutcheon includes a control cover plate that covers the normal unit mounted nomenclature. It comes 5 pieces per pack.

(ii) Required when using a Hard Wire Kit.

(iii) Provides a space to tie into a building's wiring with a receptacle to plug the unit into. It gives additional leveling and support capabilities and provides a place for fuses, a circuit breaker or a mechanical disconnect to be mounted. (30A is for units with 5kW electric heat, 20A for 3kW or less electric heat.)

(iv) All subbases require a socket. For 15 and 20 amp, the 20amp socket can be used on either the 208/230V or the 265V.

Pre-Installation

Pre-Installation Considerations

Before beginning installation, make the following considerations:

1. Verify the wall opening is in the correct location and the correct size.
2. Drill mounting holes on both sides of the wall sleeve, if equipment requires any of the following options: subbase, leveling legs.

If dimension A in Figure 3 is at or near the minimum specified in Table 3, p. 8, accessory options should be mounted to the sleeve prior to installing the sleeve in the wall. Otherwise, there may not be enough access room for the tools used to mount the accessories to the wall sleeve.

3. If additional wall sleeve support is required, the leveling leg accessory kit or a subbase kit that includes leveling legs can be used to provide extra support.
4. If installing in a concrete or masonry wall, you must provide a lintel in the wall opening for support. Do not use the wall sleeve as a lintel.

See Figure 2 for a typical lintel construction.

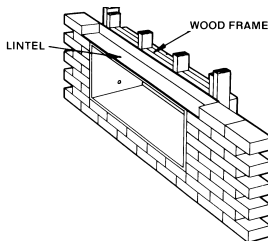


Figure 2. Typical Installation framing with lintel

5. When installing in walls that are deeper than 13 1/2 inches, use an extended wall sleeve. A sleeve without the proper depth will require special care to prevent problems with rain water, condensate drainage, and intake/discharge air.

Under these circumstances, careful jobsite analysis and cautions are required. Consult your local HVAC representative before attempting such installations.

Checklist

The following checklist provides an overview of the factory-recommended pre-installation considerations. Follow the procedures in this section to ensure the installation is complete and adequate for proper unit operation. Verify this checklist is complete before beginning unit installation.

- If unit arrives shipped on its side, do not accept.
- Verify the unit size and tagging with the unit nameplate to ensure the correct unit is received.
- Inspect the unit for possible shipping damage and make any necessary claims with the freight delivery company immediately.
- Verify the installation location is free of airflow obstructions, such as curtains, furniture, trees, or other objects that may block airflow to and from the unit.



WARNING Fire Hazard!

Do not use extension cords. Using extension cords could cause a fire.

- Make provisions for correct supply power and that the electrical receptacle is within 52 inches of the lower right corner of the equipment.
- Ensure the unit wall opening is level.
- Ensure adequate sealing and insulation is around the wall sleeve.

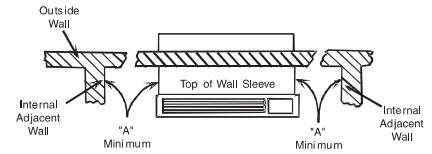


Figure 3. Minimum unit clearance

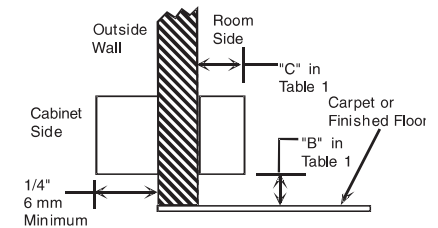


Table 2. Minimum interior and exterior projections

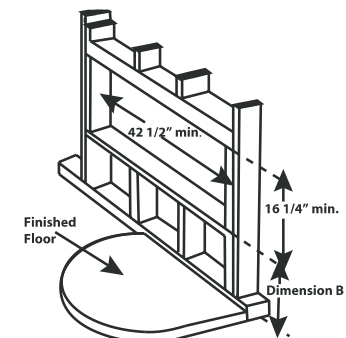


Figure 4. Minimum wall opening dimensions

Pre-Installation

Table 3. Minimum clearances and projections

Option	In.	Mm	In.	Mm	In.	Mm
Minimum clearances				Minimum projection		
A		B		C		
Wall sleeve only	3	75	0	0	0	0
Subbase kit	3	75	3 1/4	85	2 3/4	70
Leveling legs kit	3	75	3	75	2	50
Hardwire kit	3	75	3	75	0	0

Receiving and Handling

Shipping Package

The chassis and the cabinet front ship in one carton. Accessories ship separate.

Receiving Checklist

Complete the following checklist immediately after receiving unit shipment to detect possible shipping damage.

- Verify that the unit nameplate data corresponds to the sales order and bill of lading (including electrical data).
- Visually inspect the unit exterior for physical signs of shipping damage or material shortages.
- If a unit appears damaged, inspect it immediately before accepting the shipment. Remove access panels and check for interior component damage. Make specific notations concerning the damage on the freight bill. Do not accept delivery.

- Report concealed damage to the freight line within the allotted time after delivery. Verify with the carrier what their allotted time is to submit a claim.

Note: *Failure to follow these procedures may result in no reimbursement for damages from the freight company.*

- Do not move damaged material from the receiving location. It is the receiver's responsibility to provide reasonable evidence that concealed damage did not occur after delivery.
- Do not continue unpacking the shipment if it appears damaged. Retain all packaging. Take photos of damaged material if possible.
- Notify the carrier's terminal of the damage immediately by phone and mail. Request an immediate joint inspection of the damage by the carrier and consignee.
- Notify your HVAC representative of the damage and arrange for repair. Have the carrier inspect the damage before making any repairs to the unit.

Unit Dimensions

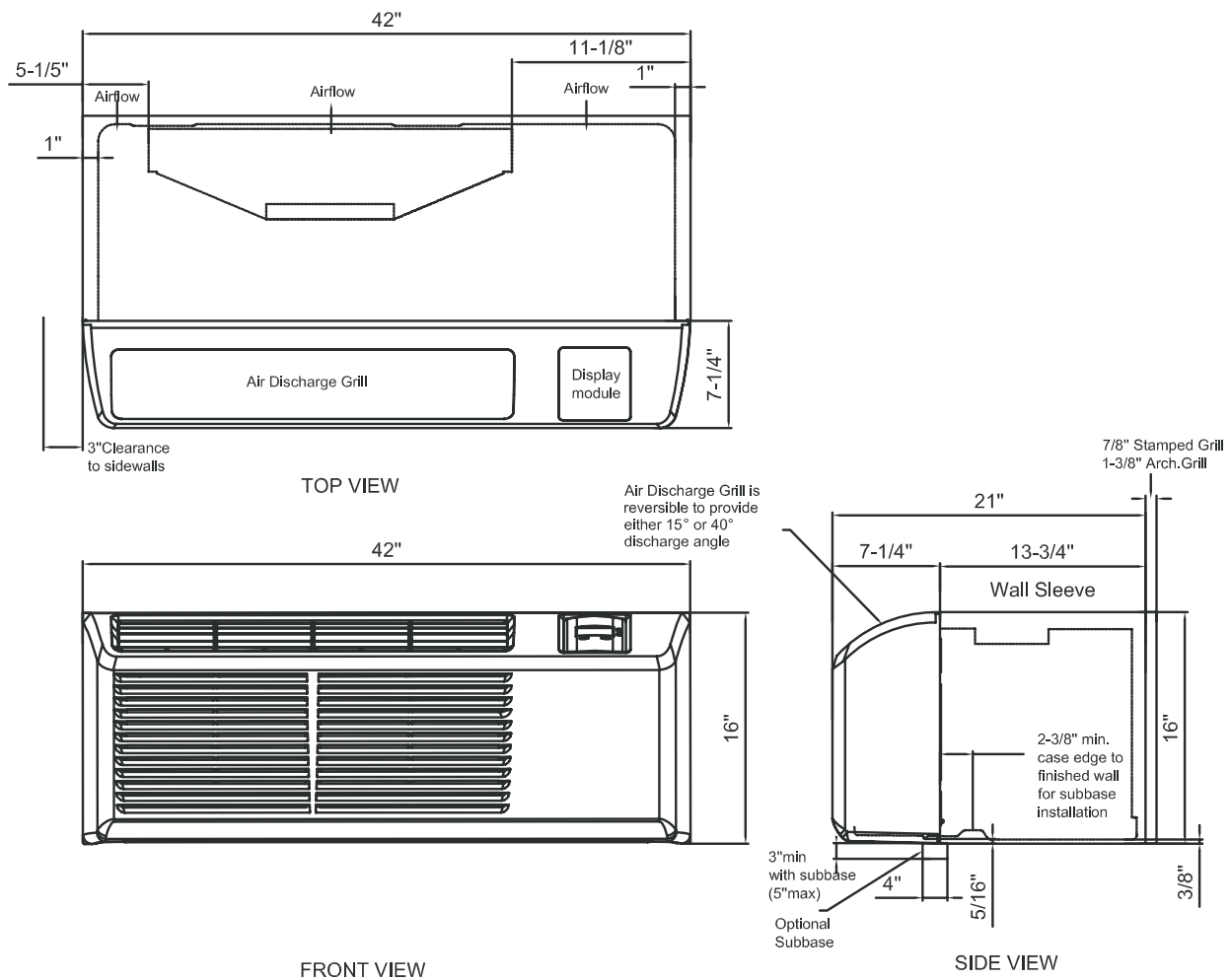


Figure 5. Unit with wall sleeve and subbase accessory

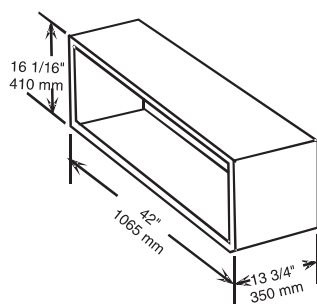


Figure 6. Wall Sleeve

Installation

WARNING

Live Electrical Components!

During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks. Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.

WARNING

Fire Hazard!

Do not use an extension cord with this unit. Doing so may cause a fire.

CAUTION

Use Copper Conductors Only!

Unit terminals are not designed to accept other types of conductors. Failure to use copper conductors may result in equipment damage.

Electrical Requirements

The PTAC can be powered by a power cord connected to a receptacle in the wall or in a subbase. It can also be connected directly to the building supply wires with a hard wire kit.

For U.S. approval, 265V units must have a permanent wiring connection. This requirement can be met either by supplying a subbase for concealed cord connection or by direct wiring with the hard wire kit.

The power cord measures 60 inches, with 56 inches usable from the point where the cord exits the unit cabinet and the attached plug.

Installation

Table 4. Electric heat capacity and electrical data, models PTCHand PTHH⁽ⁱ⁾

Voltage ⁽ⁱⁱ⁾	Size (kW)	Btu/h	Heating watts	Heating amps	Minimum circuit ampacity ⁽ⁱⁱⁱ⁾	Circuit protection ^(iv)	Plug
230/208	2.0/1.6	6,800/ 5,500	2000/ 1600	8.9/7.9	11.3	15	6 - 15 P
230/208	3.0/2.4	10,200/ 8,200	3000/ 2400	13.4/11.8	17	20	6 - 20 P
230/208	5.0/4.0	17,100/ 13,700	5000/ 4000	22.2/19.7	28	30	6 - 30 P
265	2.0	6,800	2000	7.7	9.8	15	7 - 15 P
265	3.0	10,200	3000	11.6	14.7	20	7 - 20 P
265	5.0	17,100	5000	19.3	24.4	30	7 - 30 P

⁽ⁱ⁾ All heat pumps have electric heat.

⁽ⁱⁱ⁾ Minimum voltage on 230/208 volt models is 187 volts; maximum is 253 volts. Minimum voltage on 265 volt models is 239 volts; maximum is 292 volts.

⁽ⁱⁱⁱ⁾ Minimum branch circuit ampacity ratings conform to the National Electric Code. However, local codes should apply.

^(iv) Overcurrent protection for all units without electric heaters is 15 amps. Overcurrent protection on 265 volt models must be cartridge-style time delay fuses.

Table 5. Power receptacle configurations

Unit Voltage Rating	230/208	230/208	230/208	265	265
Unit plug					
Plug amp rating	15	20	30	15/20	30
NEMA designation	6-15P	6-20P	6-30P	7-15P/7-20P	7-30P
Receptacle					
Receptacle amp rating	20	20	30	15/20	30
NEMA designation	6-20R	6-20R	6-30R	7-15R/7-20R	7-30R

Installation

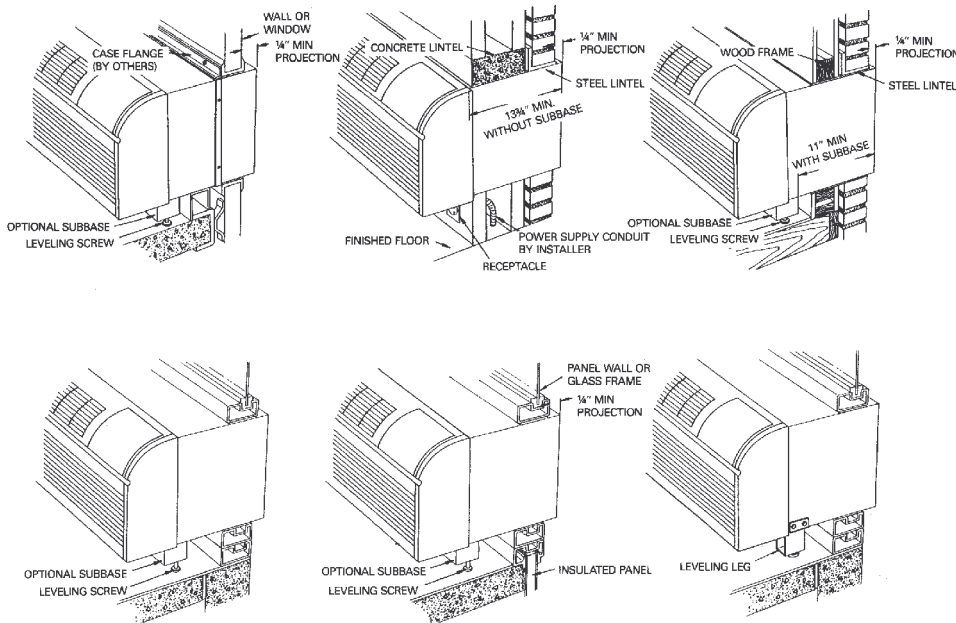


Figure 10. Panel wall installation

Installation Procedure



WARNING Hazardous Voltage w/ Capacitors!

Disconnect all electric power, including remote disconnects before servicing. Follow proper lockout/tagout procedures to ensure the power cannot be inadvertently energized. For variable frequency drives or other energy storing components provided by Haier, refer to the appropriate manufacturer's literature for allowable waiting periods for discharge of capacitors. Verify with an appropriate voltmeter that all capacitors have discharged. Failure to disconnect power and discharge capacitors before servicing could result in death or serious injury. Install components in this order.

1. Remove rear closure panel from wall sleeve.
2. Install drain kit (optional).
3. Install outdoor air grille in wall sleeve.

4. Install wall sleeve in wall opening.
5. Install unit chassis in wall sleeve.
6. Install unit power supply.
 - Power cord
 - Hard wire kit
 - Subbase kit
 - Electrical receptacle
 - Power switch
 - Circuit breaker
7. Install unit controls.
 - Display module
 - Remote wall thermostat
8. Configure display module settings.
9. Programmable settings.

Step 1. Remove rear closure panel from wall sleeve.

1. Remove the zigzag folded cardboard sleeve stiffener. See Figure 11. Remove the rear closure panel by folding the four flaps as indicated in Figure 12

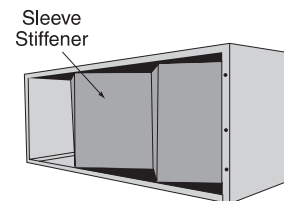


Figure 11. Wall sleeve stiffener

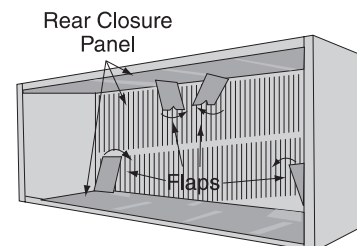


Figure 12. Sleeve rear closure panel

Installation

2. Grasping the top and bottom flanges of the rear closure panel as shown in Figure 13, the entire panel is pulled out diagonally from one side.

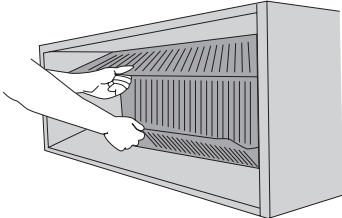


Figure 13. Pull rear closure panel out of wall sleeve

Step 2. Install drain kit in wall sleeve.

Drain kits are available for indoor or outdoor installation to help condensate drain from either the right or left side of the wall sleeve externally, or from the bottom of the sleeve internally.

Note: For installation procedures, please refer to the Installation Guide that accompanied the accessory.

If you do not use the drain kit, condensate will drain out of the rear of the wall sleeve. The drain kit must be installed before the outdoor grille is installed.

Step 3. Install outdoor air grille in wall sleeve.

An outdoor air grille directs airflow for proper unit operation and to protect the outdoor coil. Install the grille before installing the chassis.

Outdoor air grille options are either a stamped grille or an architectural grille. When replacing an old chassis with an existing grille, please check with your HVAC representative to determine if the new chassis can be used with the old outdoor grille.

Using the wrong type outdoor grille can decrease cooling or heating capacity, increase energy usage, or shorten compressor life.

Note: For installation procedures, please refer to the Installation Guide that accompanied the accessory.

Step 4. Install wall sleeve in wall opening.

For condensate to drain properly inside the unit, the sleeve must be installed properly:

- level from right to left
- with a slight downward pitch from the indoor side to the outdoor side

Note: If equipment is 230/208 volt, verify the electrical receptacle is located within 52 inches of the sleeve's right hand corner. Do not use an extension cord.

Note: For installation procedures, please refer to the Installation Guide that accompanied the accessory.

5. Install unit chassis in wall sleeve.



Do not use an extension cord with this unit. Doing so may cause a fire.

1. Attach the insulation strip to the upper rear of the wall sleeve. See Table 14. If using an extended wall sleeve, attach the insulation strip between the two baffles, touching the baffle surface facing towards the front.

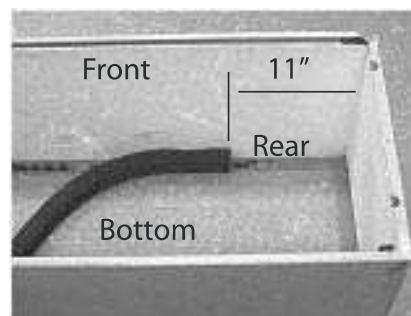


Figure 14. Insulation strip location

2. Remove the cabinet front from the chassis by pulling the bottom of the cabinet front away from the chassis until the retaining clips disengage.
3. If using a subbase, be sure the right-hand subbase cover is removed before installing the chassis in the wall sleeve.

4. Slide the chassis into the wall sleeve until the chassis flanges contact the front edge of the wall sleeve. See Figure 15.
5. Secure the chassis to the wall sleeve using three screws on each side of the chassis to ensure a proper seal between the chassis and the wall sleeve. The screws are supplied in a plastic bag which is attached to the power cord. See Figure 16.
6. Verify the indoor and outdoor grilles are free of airflow obstructions.
7. Make the power supply connections as detailed in the next step.

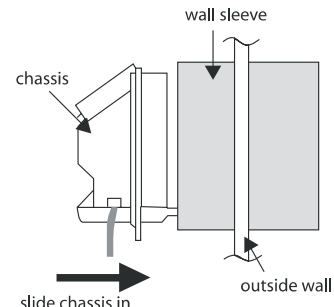


Figure 15. Slide unit chassis into the wall sleeve

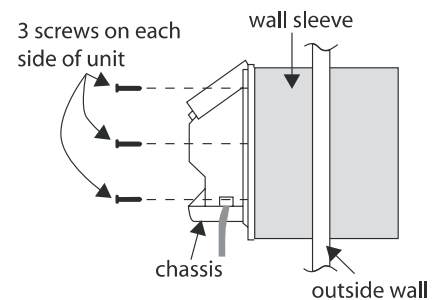


Figure 16. Secure chassis to wall sleeve

Step 6. Install unit power supply.

Note: For installation procedures, please refer to the Installation Guide that accompanied the accessory.

Installation

Table 6. Unit power supply

Voltage	Accessory	Accessory part number
265 V		
Option 1.	Subbase	HASBU01
	Power Cord	HAPCRD04,HAPCRD05 HAPCRD06
Option 2.	Hard Wire Kit	HAHWRK01
	Connector for Hardwire	HACNHK21,HACNHK22 HACNHK23
230/ 208 V		
Option 1.	Power Cord	HAPCRD01, HAPCRD02, HAPCRD03
Option 2.	Subbase	HASUB01
	Power Cord	HAPCRD01, HAPCRD02, HAPCRD03
Option 3.	Hard Wire Kit	HAHWRK01
	Connector for Hardwire	HACNHK11,HACNHK12, HACNHK13

1. All units require either a power cord or hard wire kit to power the unit

Step 7. Install the unit controls.

The PTAC controller's normal operation can be operated by using either

- Display module - can be wall-mounted or unit mounted.
- Remote Class 2 thermostat -

For Remote Class 2 Thermostat Installation, read installation and operation booklet carefully.

Look in Wiring Diagram section for information on wiring.

If a remote thermostat is connected, the unit's display will not be present and the controller's normal space temperature control functionality is overridden by the remote device.

When the controller is being directed by a remote thermostat, the following inputs/functions are disabled or not present:

1. User display inputs (setpoint/mode/fan)
2. Dehumidification
3. Configuration setup (indoor fan, setpoint limits, EMS offset, display units)
4. Energy management system
5. Manual Test

Unit functions that remain under direct supervision of the controller are:

1. Random Restart
2. Heat Pump OAT switchover
3. Tubing burst protection
4. Room freeze protection
5. Indoor coil freeze protection
6. Defrost control

When connected to a remote thermostat, the controller interprets the combination of thermostat inputs as its operating mode and behaves accordingly.

It is recommended to use a small screwdriver to gently pry the removable terminal block "TB2" up and off for easy connection.

Installation

Note: If using a third party thermostat to control the unit, the thermostat must have a clearly marked OFF state or position.

Note: It is important to make sure that the control board's fuse is functioning. The specs for the control board fuse are: 5x20mm, 250V, 315mA, fast acting. For more information on a blown fuse on the control board, check the Troubleshooting section of this document.

Table 7. Maximum wire length for front desk switch and remote control connections

External Interface	Wire Specification	
	Size	Length
Thermostat	#22	100 ft.
	#20	200 ft.
	#18	300 ft.
Energy mgmt system	#20	900 ft.
	#18	1500 ft.
Remote fan	#20	60 ft.
	#18	66 ft.
Display module	#20	100 ft.
	#18	120 ft.

Table 8. Wiring Voltage

Unit	Mode	Voltage at terminal					Corresponding Normal Operation
		GH	GL	W	Y	O	
PTHH Heat Pump Auxiliary is Electric only	High Heat Pump	24	0	0	24	0	Heat Pump
	Low Heat Pump	0	24	0	24	0	Heat Pump
	High Emgcy Heat	24	0	24	0	0	Electric Heat
		24	0	24	24	0	Electric Heat
	Low Emgcy Heat	0	24	24	0	0	Electric Heat
		0	24	24	24	0	Electric Heat
	High Cooling	24	0	0	24	24	Cool
	Low Cooling	0	24	0	24	24	Cool
	High Fan	24	0	0	0	0	Fan Only
	Low Fan	0	24	0	0	0	Fan Only
PTCH Air Conditioner (Auxiliary is Electric, Hot Water, or Steam)	Off	0	0	0	0	0	Off
	High Auxiliary Heat	24	0	24	0	0	Heat
	Low Auxiliary Heat	0	24	24	0	0	Heat
	High Cooling	24	0	0	24	24	Cool
	Low Cooling	0	24	0	24	24	Cool
	High Fan	24	0	0	0	0	Fan Only
	Low Fan	0	24	0	0	0	Fan Only
	Off	0	0	0	0	0	Off

Notes: In the event that none of the combinations listed in the table above is present, the input will be deemed invalid and all heating, cooling, and fan operation will be disabled.

Installation

Table 9. Output settings

User Mode / Model	ID Fan High	ID Fan Low	Aux Heat	Comp	Rev Valve (PTHH)	OD Fan	Rmt Fan	Cond Pump (PTHH)	Vent Door /Fan
High Heat Pump (PTHH only)	ON	OFF	OFF	ON	OF	ON	EN	EN	EN
Low Heat Pump (PTHH only)	OFF	ON	OFF	ON	OFF	ON	EN	EN	EN
High Emergency/ Auxiliary Heat	ON	OFF	ON	OFF	N/C	OFF	EN	EN	EN
Low Emergency/ Auxiliary Heat	OFF	ON	ON	OFF	N/C	OFF	EN	EN	EN
High Cooling	ON	OFF	OFF	ON	ON	ON	EN	EN	EN
Low Cooling	OFF	ON	OFF	ON	ON	ON	EN	EN	EN
High Fan	ON	OFF	OFF	OFF	N/C	OFF	EN	EN	EN
Low Fan	OFF	ON	OFF	OFF	N/C	OFF	EN	EN	EN
Off	OFF	OFF	OFF	OFF	N/C	OFF	OFF	EN	OFF

Notes: EN = Enabled - operations based on other logic

Notes: N/C = No change from prior state

Step 8. Configure the display module settings

Indoor Temperature setpoint

The indoor temperature setpoint buttons tell the unit how warm or cool the occupant wants the room.

The setpoint is set by pressing the up/down buttons on the interface module. These buttons do not scroll (i.e. holding the button will not continue to adjust the setpoint value) because each adjustment of the setpoint value requires its own unique button press.

Default setpoint on first power up: 72°F (22.0°C – closest approximation)

Setpoint resolution: $\pm 1^\circ\text{F}$ ($\pm 0.5^\circ\text{C}$)

User Mode Selection

Pressing the MODE button on the unit tells the unit which mode the occupant prefers. There are four modes to choose from.

1. COOL
2. HEAT
3. FAN (fan only)
4. OFF (default for first power up)

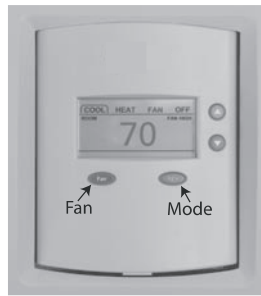


Figure 17. Digital display module

Fan Speed Selection

Pressing the FAN button on the interface module determines fan speed. There are two fan speeds to choose from.

1. LOW (default for first power up)
2. HIGH

Field commissioning support

Manual Test Mode

A manual test mode is provided to allow a field technician to verify proper output and end device operation through a predetermined, timed sequence.

The sequence will automatically advance through all outputs and exit when the sequence has completed; it is left to the technician to monitor the status of the end devices during the test to verify that each operates properly.

Manual test is initiated by combining the following conditions:

- User Mode = OFF
- Press and hold MODE & SETPOINT DOWN for 5 seconds

During the test process, the word "STEP" and the corresponding step number will be lighted on the display. After the final step has been executed, the controller will exit Manual test and force the controller to into a reset.

Manual test mode may be cancelled by pressing any button on the display.

Manual test is not available if there is no interface module, as is in Class 2 control applications.

The test sequence attempts to clear unit diagnostics and restore normal unit operation prior to testing the outputs. If the diagnostics remain after an attempt to clear them, manual test may be affected or disallowed.

Dehumidification

The PTAC controller does not directly measure room humidity.

The PTAC provides dehumidification by combining the following actions in a predefined sequence.

1. The PTAC subcools the room to a preset state, a dehumidification offset below the cooling setpoint.
2. The unit will automatically adjust the fan speed.
3. When incorporating the vent door option, the controller will automatically adjust its position.

Installation

Step 9. Programmable Settings

The controller has a total of six (7) parameters that are user-configurable:

1. Vent Door Configuration
2. Indoor Fan Cycle configuration
3. Temperature Setpoint Limiting configuration
4. Energy Management Setpoint Offset configuration
5. Display Units configuration
6. Indoor Temperature Calibration
7. Dehumidification Offset

The interface module texts "SETTING" and "STEP" provide user feedback when the unit is in the configuration mode. The number directly above the word "STEP" indicates the configuration step that is being adjusted. The numbers above the word "SETTING" (XX.x) indicate the value of the parameter.

In order for the user to access the configurable parameters, a digital display module must be present.

The configuration set-up mode is entered by pressing and holding the "MODE" and "FAN" buttons simultaneously for 5 seconds.

Table 10. Set point configuration

Configuration step	Step description	Configuration setting	Setting description
1	Ventilation Enable	0	Ventilation is disabled
		1 (default)	Ventilation is enabled
2	Indoor fan cycle	0 (default)	Cycle with compressor continuously, OFF in OFF mode
		1	ON continuously, HIGH in OFF mode
		2	
3	Temperature Setpoint Limits	0 (default)	cool 50 - 90°F, heat 50 - 90°F
		1	cool 55 - 90°F, heat 50 - 85°F
		2	cool 60 - 90°F, heat 50 - 80°F
		3	cool 65 - 90°F, heat 50 - 75°F
4	Energy Management	Default: 10°F (5.5°C)	
		Range: 0 to 20°F (0.0 to 10.0°C)	
5	Display units	Resolution: 1.0°F (0.5°C)	
		0 (default)	IP (English)
6	Indoor Temperature Calibration	1	SI (Metric)
		Default: 0°F (0.0°C)	
7	Dehumidification offset	Range: -9 to 9°F (-5.0 to 5.0°C)	
		Resolution: 1.0°F (0.5°C)	
		Default: 1°F (0.5°C)	
		Range: 0 to 2°F (0.0 to 1.0°C)	
		Resolution 1.0°F (0.5°C)	
		Value of zero disables dehumidification.	

Installation

1. Indoor Fan Cycle set up

The indoor fan can be configured to provide different types of operation between its OFF and ON (high/low) states. This setting is adjustable and does not force the unit to reset.

2. Temperature Setpoint Limiting set up

The range of temperature control setpoints can be limited using this configuration parameter. After the controller has determined the desired user setpoint from the display, the resulting value is validated against the setpoint limits. There are four valid combinations of heating and cooling setpoint limits:

These set point limits apply to both the occupied and unoccupied standby, heating and cooling setpoints. This setting is adjustable "on-the-fly" and will not force the unit into a restart condition.

3. Energy Management Setpoint Offset set up

The range of the Energy Management System's effect on setpoints can be adjusted using this configuration parameter. This parameter is adjustable "on-the-fly" and will not force the controller into a restart condition. The range and resolution of available selections is

Range: 0°F to 20°F(0.0°C to 11.0°C)

Resolution: 1.0°F(0.5°C)

4. Display Unit set up

The user can change the way the interface module displays temperature. The symbols °F and °C will not be present on the display; however, the range and precision of the room temperature and setpoint values will make the selection obvious.

5. Indoor temperature calibration

The indoor temperature can be calibrated to match an independent reading. The adjustment range is +/- 10.0°F (6°C) with a resolution of 1°F (0.5°C).

6. Dehumidification Offset

The offset defines the point below the setpoint where the unit will stop running the compressor. A DH display module is required to use this feature.

The PTAC allows the options of 0°F (disable), 1°F (default) and 2°F (optional) for the dehumidification offset. The dehumidification feature will be disabled when the configuration of 0°F is selected.

Last User Setpoint, Mode, and Fan Selections

The controller saves the last inputs that the user has chosen 5 seconds after the user has ceased changing them. These settings will be used after the next power cycle or controller reset.

Operation without configuration

The controller tests the configuration for validity. If the data is corrupted the controller will revert to default values for every parameter. A diagnostic code will be displayed when using the default values.

Table 11. Display units

Selection #	Unit of Measure	Display Example
0	IP (English)	77 (DEFAULT)
1	SI (Metric)	24.5

Table 12. Setpoint limiting

Selection #	Cooling Setpoint		Heating Setpoint	
	Low Limit	High Limit	Low Limit	High Limit
0	50°F	90°F	50°F	90°F (DEFAULT)
1	55°F	90°F	50°F	85°F
2	60°F	90°F	50°F	80°F
3	65°F	90°F	50°F	75°F

Installation

Table 13. Indoor fan cycle configuration

Config #	Indoor Fan Cycle Mode
0	Indoor fan will not run when the user mode is OFF. (DEFAULT)
	Indoor fan will cycle to the user selected speed in conjunction with the compressor or electric heat during HEAT or COOL
	Indoor fan will run continuously at the user selected fan speed during FAN
	EMS has no affect.
1	Indoor fan will normally run continuously at the user selected fan speed.
	Indoor fan will not run when the user mode is OFF.
	Indoor fan will cycle in conjunction with the compressor or electric heat when the EMS is enabled.
2	Indoor fan will normally run continuously at the selected fan speed.
	Indoor fan will run at HIGH speed when the user mode is OFF.
	Indoor fan will cycle in conjunction with the compressor or electric heat when the EMS is enabled.

Energy Management System

Occupancy States

The controller is designed to handle two possible occupancy states:

- occupied
- occupied standby

When the Energy Management System input is present, it is possible for the controller to switch between the two occupancy states.

If the EMS input is not connected, the controller will always assume the occupied state.

Occupied Standby state

When the controller is in occupied standby state, the unit runs space comfort control using the occupied standby setpoints. All heating/cooling/ventilation features are enabled. Because the occupied standby setpoints cover a wider range than the occupied setpoints the demand for heating and cooling the space is reduced.

Table 14. Occupancy arbitration for energy management

EMS Input State	Controller Occupancy State
Open or Not Present	Occupied
Closed	Occupied Standby

Occupied state

When the controller is in the occupied state, the unit runs space comfort control using the occupied setpoints. All heating/cooling/ventilation features are enabled.

Installation

Table 15. PTCH manual test sequence

Step		Indoor Fan High	Indoor Fan Low	Remote Fan	Outdoor Fan	Condensate Pump	Comp	Reversing Valve	Aux. Heat	Ventilation Door/Fan	Time in Step
1	All off	Off	Off	Off	Off	N/A (Off)	Off	N/A (Off)	Off	Off	10 sec
2	Fan high	On	Off	Off	Off	N/A (Off)	Off	N/A (Off)	Off	Off	20 sec
3	Fan Low	Off	On	Off	Off	N/A (Off)	Off	N/A (Off)	Off	Off	20 sec
4	Remote Fan	Off	On	On	Off	N/A (Off)	Off	N/A (Off)	Off	Off	20 sec
5	Outdoor Fan	Off	On	Off	On	N/A (Off)	Off	N/A (Off)	Off	Off	20 sec
6	Compressor	Off	On	Off	On	N/A (Off)	On	N/A (Off)	Off	Off	60 sec
7	Aux Heat	Off	On	Off	OnOff	N/A (Off)	Off	N/A (Off)	On	Off	60 sec
8	Vent Door	Off	On	Off	OnOff	N/A (Off)	Off	N/A (Off)	Off	On	20 sec
Exit											

Table 16. PTHH manual test sequence

Step		Indoor Fan High	Indoor Fan Low	Remote Fan	Outdoor Fan	Condensate Pump	Comp	Reversing Valve	Aux Heat	Ventilation Door/Fan	Time in Step
1	All off	Off	Off	Off	Off	Off	Off	Off	Off	Off	10 sec
2	Fan High	On	Off	Off	Off	Off	Off	Off	Off	Off	20 sec
3	Fan Low	Off	On	Off	Off	Off	Off	Off	Off	Off	20 sec
4	Remote Fan	Off	On	On	Off	Off	Off	Off	Off	Off	20 sec
5	Outdoor Fan	Off	On	Off	On	Off	Off	Off	Off	Off	20 sec
6	Condensate Pump	Off	On	Off	On	On	Off	Off	Off	Off	20 sec
7	Compressor on Cooling	Off	On	Off	On	Off	On	OffOn	Off	Off	60 sec
8	Compressor Off	Off	Off	On	Off	On	Off	Off	OffOn	Off	60 sec
9	Compressor on Heating	Off	On	Off	On	Off	On	OnOff	Off	Off	60 sec
10	Aux Heat	Off	On	Off	OnOff	Off	Off	OnOff	On	Off	60 sec
11	Vent Door	Off	On	Off	OnOff	Off	Off	Off	Off	On	20 sec
Exit											

Operation

Sequence of Operation

Automatic 3-minute Compressor Lockout

After the compressor cycles off, it will not restart for three minutes. This feature prevents the compressor from short cycling and extends the overall life.

Automatic Switch To Electric Heat (PTHH only)

If the room temperature falls to 2.5°F below the setpoint temperature or the unit compressor fails, the reverse cycle heat is shut off and the electric heat is turned on.

Indoor Room Freeze Protection

When the unit senses room temperatures of 40°F or below, the unit activates the indoor fan motor and either the electric resistance heater or the hydronic heater to help prevent pipes or fixtures from freezing.

This also overrides the Energy Management System input for unit mounted or wall mounted display modules

Random Restart Function

This function allows random restart of the PTAC units in the event of a power outage. The restart delay reduces the initial inrush current from the building to help prevent a second power outage caused by too much current draw.

The random restart function will occur after every power up cycle by delaying the operation of the unit for 0 to 90 seconds. Compressor minimum off time is enforced after the random restart function has completed.

Door Switch Occupancy Sensor

The PTAC can accommodate a field-installed door switch and occupancy sensor to operate the energy management feature.

Remote Thermostat Control

Each unit can be operated from any standard 4 or 5-wire, remote-mounted thermostat. Also, the unit has a built-in low voltage power source that can accommodate either a manual, auto changeover, or programmable thermostat.

Setpoint Limiting

The setpoint limiting feature reduces energy costs by controlling the maximum setpoint in heating and the minimum setpoint in cooling.

Active Defrost (PTHHs only)

PTACs have an active defrost system that removes ice build-up on the outdoor coil, which may occur during the heat pump cycle.

Remote Thermostat Operation

The GL, GH, O, W, Y, R, and C terminals provide control inputs for a remote wall-mounted thermostat.

The terminals listed control the operation of the unit when no display module is used. A display module will take precedence over any of these inputs.

Mode Button Operation

OFF - cooling and heating functions stop.

HEAT - room temperature is maintained by cycling in heat pump mode or electric heat. The model PTHH switches from heat pump mode to electric heat when the outdoor air temperature is below 20°F (approximately), or when the heat pump cannot keep up with the heating load when using a two-stage thermostat.

COOL - room temperature is maintained by cycling the air conditioner.

FAN - the fan runs at the user selected speed or runs as otherwise configured.

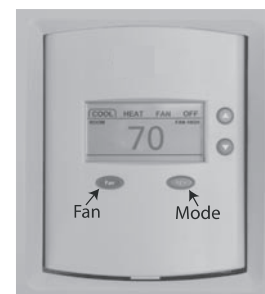


Figure 18. Digital display module

Fan Operation

The fan speed may be user selected as either high or low. Fan cycling versus continuous is operation configurable. See section on configuration for details.

Front Desk Control (FD1, FD2 Inputs)

The energy management input is used to move the setpoint up in the case of cooling and down in the case of heating. This conserves energy by reducing the demand in the space.

The energy management input is a dry contact closure; typically this is driven from either a occupancy sensor or a front desk control system.

Operation

Table 17. User inputs

Input	Function
TB1	
+	Remote display communications link (+)
-	Remote display communications link (-)
TB2	
EN	Energy management system input
VT	Ventilation input
O	Reversing valve (class 2 thermostat)
GL	Low fan speed (class 2 thermostat)
GH	High speed fan (class 2 thermostat)
Y	Cool (class 2 thermostat)
W	Heat (class 2 thermostat)
R	24VAC common1
C	Ground2
RF	Remote fan relay output

Notes:

1. Connection to R enables input functions W, Y, GL, GH, O, VT, and/or EN.
2. Connect 24VAC, 3VA maximum Remote Fan Control Relay to RF and C

Remote Fan Operation

PTACs can operate a remote fan to provide conditioned air to additional rooms or areas that are not well ventilated. The remote fan operates any time the PTAC indoor fan is operating.

The remote fan requires a 24 VAC, 3 VA maximum relay that connects to the control board RF and C terminal user inputs. The relay and remote fan are field supplied. Refer to the wiring diagrams section for wiring details.

Vent Control

Vent control draws fresh air into the conditioned area to provide ventilation when the indoor fan is operating. However, this may increase heating cooling loads and operating costs.

To obtain access to the vent control, remove the cabinet front and locate the vent control lever on the left side of the chassis. Push the vent control lever up to open the vent or down to close.

The unit ships with the vent door closed and secured by a screw.

Air Discharge Grille

The discharge grille can be adjusted to expel air at either a 15° or 40° (40° default) angle. Figure 19.

To change the discharge air airflow angle:

1. Remove the front cabinet.
2. Position the front cabinet so that the backside is accessible.
3. Remove the four screws which secure the discharge air grille to the cabinet front with a phillips-head screwdriver. See Figure 31.
4. Rotate the grille 180° end-for-end.
5. Reinstall the screws securing the discharge air grille to the cabinet front. Reinstall the cabinet front on the unit.



Figure 19. Discharge air grille

Operation

Table 18. Air conditioner (standard models) performance data

Voltage (V)	PTCH07			PTCH09			PTCH12			PTCH15		
	208	230	265	208	230	265	208	230	265	208	230	265
Cooling data												
Cooling capacity (Btu/H)	7,200	7,400	7,300	8,600	8,800	8,700	11,800	12,000	11,800	13,800	14,000	14,000
Cooling amps (A)	2.9	2.7	2.4	3.8	3.5	3.1	5.3	4.9	4.1	7.0	6.4	5.7
EER (Btu/H/watt)	11.9	11.9	12.0	11.2	11.2	11.3	10.6	10.6	10.8	9.8	9.8	10.0
Dehumidification (Pts/h)	2.1	2.1	2.1	2.5	2.6	2.6	3.1	3.1	3.1	4.1	4.1	4.1
Indoor cfm (High)	260	290	290	260	290	290	320	350	350	365	400	400
Indoor cfm (Low)	235	266	266	235	266	266	293	323	323	330	360	360
Electric heat data												
Heating Btu/h												
2.0KW	5,500	6,800	6,800	5,500	6,800	6,800	5,500	6,800	6,800	5,500	6,800	6,800
3.0KW	8,200	10,200	10,200	8,200	10,200	10,200	8,200	10,200	10,200	8,200	10,200	10,200
5.0KW	*	*	*	13,700	17,100	17,100	13,700	17,100	17,100	13,700	17,100	17,100
Heating watts												
2.0KW	1,600	2,000	2,000	1,600	2,000	3,000	1,600	2,000	3,000	1,600	2,000	3,000
3.0KW	2,400	3,000	3,000	2,400	3,000	3,000	2,400	3,000	3,000	2,400	3,000	3,000
5.0KW	*	*	*	4,000	5,000	5,000	4,000	5,000	5,000	4,000	5,000	5,000
Heating amps												
2.0KW	7.9	8.9	7.7	7.9	8.9	7.7	7.9	8.9	7.7	7.9	8.9	7.7
3.0KW	11.8	13.4	11.6	11.8	13.4	11.6	11.8	13.4	11.6	11.8	13.4	11.6
5.0KW	*	*	*	19.7	22.2	19.3	19.7	22.2	19.3	19.7	22.2	19.3

Notes: Certified in accordance with the Unitary Air-Conditioner Equipment Certification Program, which is based on AHRI Standard 310/380.

Operation

Table 19. Heat pump performance

	PTHH 07			PTHH 09			PTHH 12			PTHH 15		
Voltage (V)	208	230	265	208	230	265	208	230	265	208	230	265
Cooling												
Cooling capacity(Btu/H)	7,000	7,200	7,200	8,700	8,900	8,700	11,800	12,000	11,700	13,300	13,600	13,600
Cooling amps (A)	2.9	2.7	2.3	3.8	3.6	3.1	5.3	4.9	4.2	6.8	6.2	5.5
EER(Btu/H watt)	11.9	11.9	12.0	11.4	11.4	10.8	10.6	10.6	11.0	10.0	10.0	10.0
Dehumidification (Pts/h)	2.1	2.1	2.1	2.5	2.6	2.6	3.0	3.1	3.1	4.1	4.1	4.1
Heat pump												
Heating capacity (Btu/H)	6,500	6,700	6,500	7,800	8,000	7,800	10,600	10,800	10,600	12,500	13,000	12,500
COP (W/W)	3.5	3.5	3.4	3.3	3.3	3.3	3.2	3.2	3.2	3.1	3.1	3.0
Airflow												
Indoor cfm (High)	260	290	290	260	290	290	320	350	350	365	400	400
Indoor cfm (Low)	235	266	266	235	266	266	293	323	323	330	360	360
Electric heat data												
Heating Btu/h												
2.0KW	5,500	6,800	6,800	5,500	6,800	6,800	5,500	6,800	6,800	5,500	6,800	6,800
3.0KW	8,200	10,200	10,200	8,200	10,200	10,200	8,200	10,200	10,200	8,200	10,200	10,200
5.0KW	*	*	*	13,700	17,100	17,100	13,700	17,100	17,100	13,700	17,100	17,100
Heating watts												
2.0KW	1,600	2,000	2,000	1,600	2,000	2,000	1,600	2,000	2,000	1,600	2,000	2,000
3.0KW	2,400	3,000	3,000	2,400	3,000	3,000	2,400	3,000	3,000	2,400	3,000	3,000
5.0KW	*	*	*	4,000	5,000	5,000	4,000	5,000	5,000	4,000	5,000	5,000
Heating amps												
2.0KW	7.9	8.9	7.7	7.9	8.9	7.7	7.9	8.9	7.7	7.9	8.9	7.7
3.0KW	11.8	13.4	11.6	11.8	13.4	11.6	11.8	13.4	11.6	11.8	13.4	11.6
5.0KW	*	*	*	19.7	22.2	19.3	19.7	22.2	19.3	19.7	22.2	19.3

Notes: Certified in accordance with the Unitary Air-Conditioner Equipment Certification Program, which is based on ARI Standard 310/380.

Notes: Shaded area is rating ampere

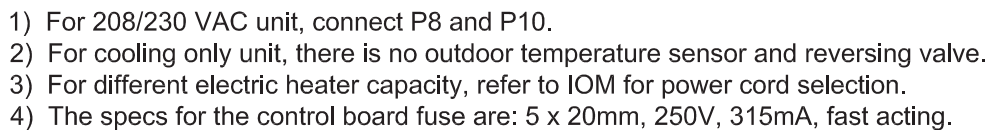
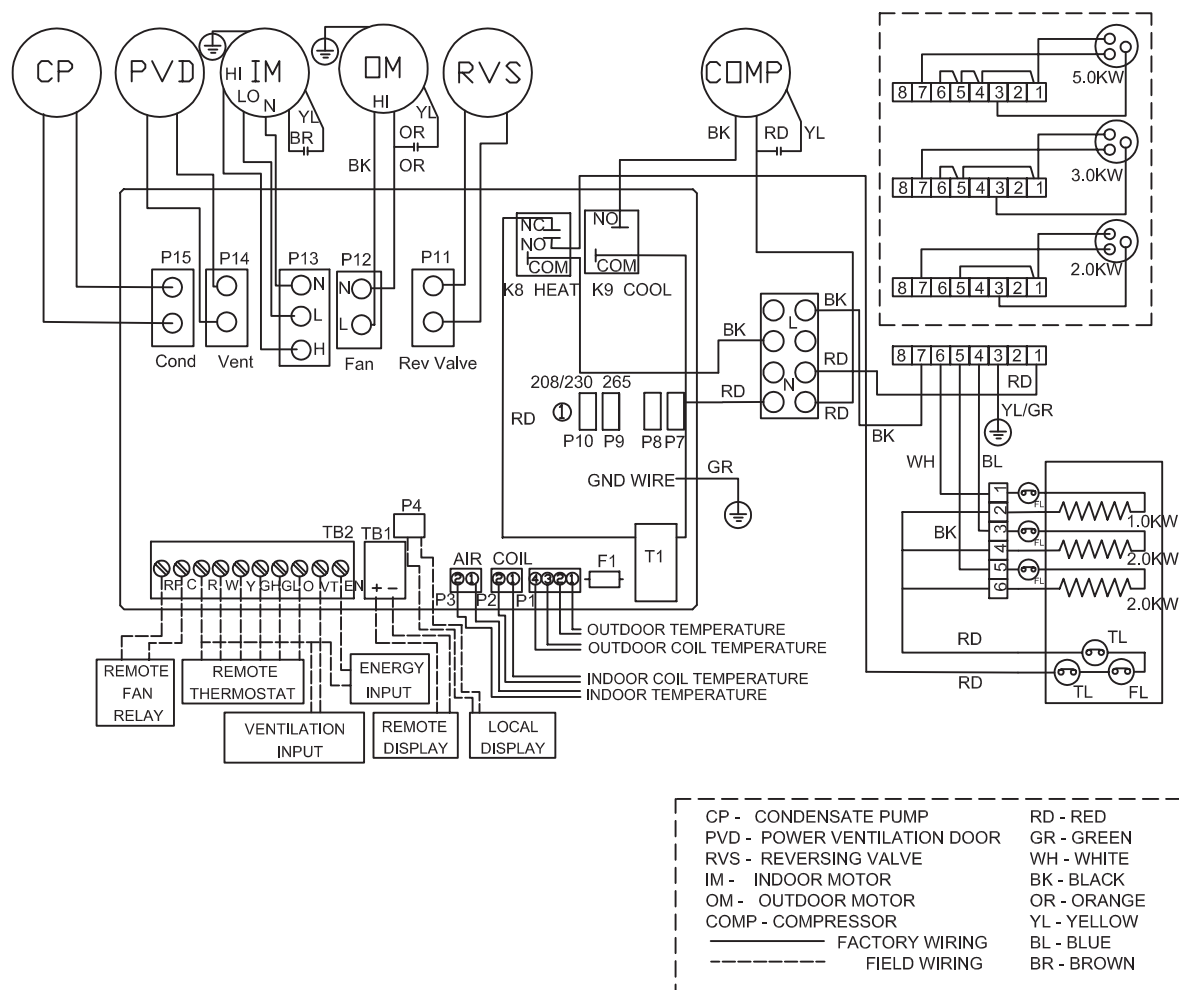


Figure 30. 230/208V wiring diagram (07 models)

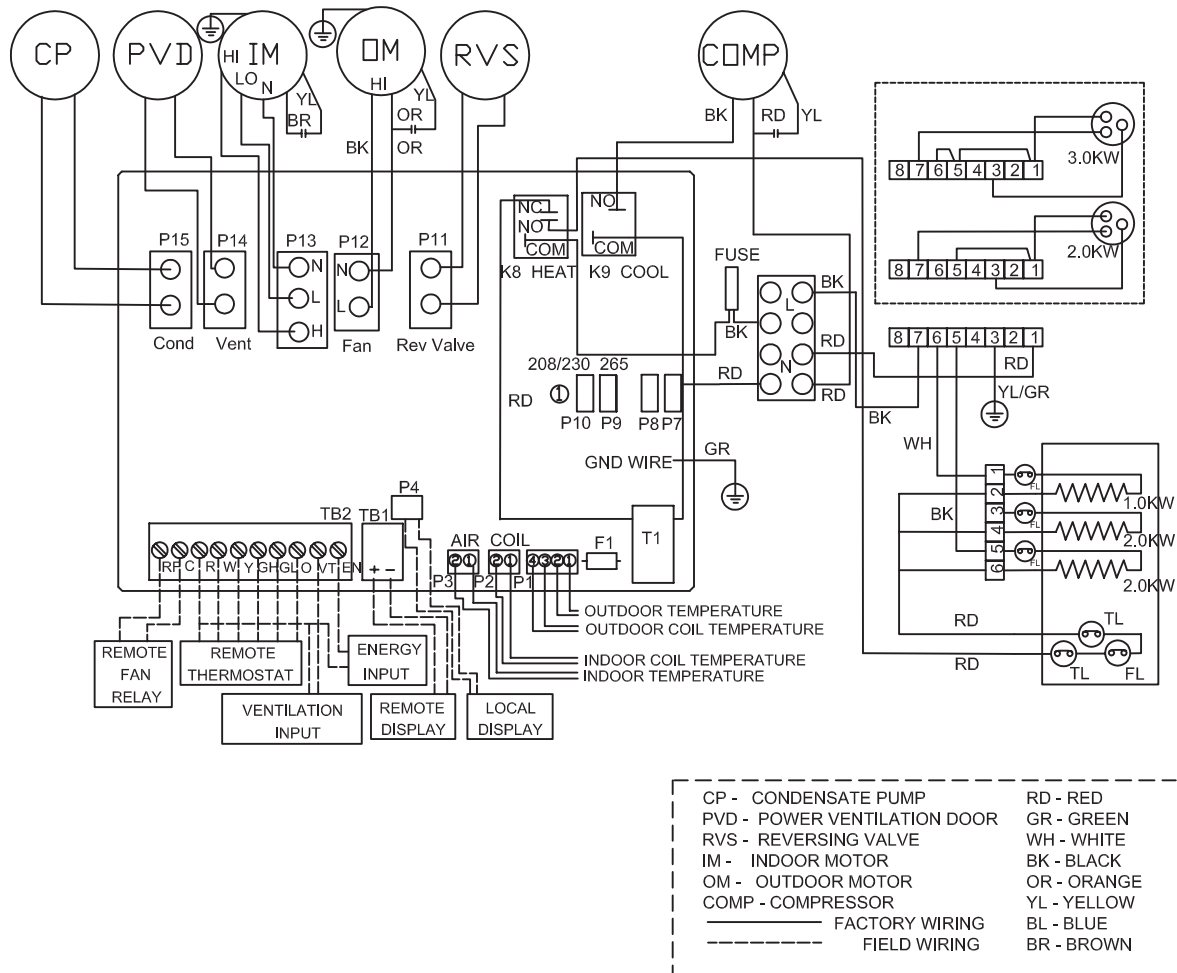
Wiring Diagram



- 1) For 208/230 VAC unit, connect P8 and P10.
- 2) For cooling only unit, there is no outdoor temperature sensor and reversing valve.
- 3) For different electric heater capacity, refer to IOM for power cord selection.
- 4) The specs for the control board fuse are: 5 x 20mm, 250V, 315mA, fast acting.

Figure 31. 230/208V Wiring diagram (09, 12, 15 models)

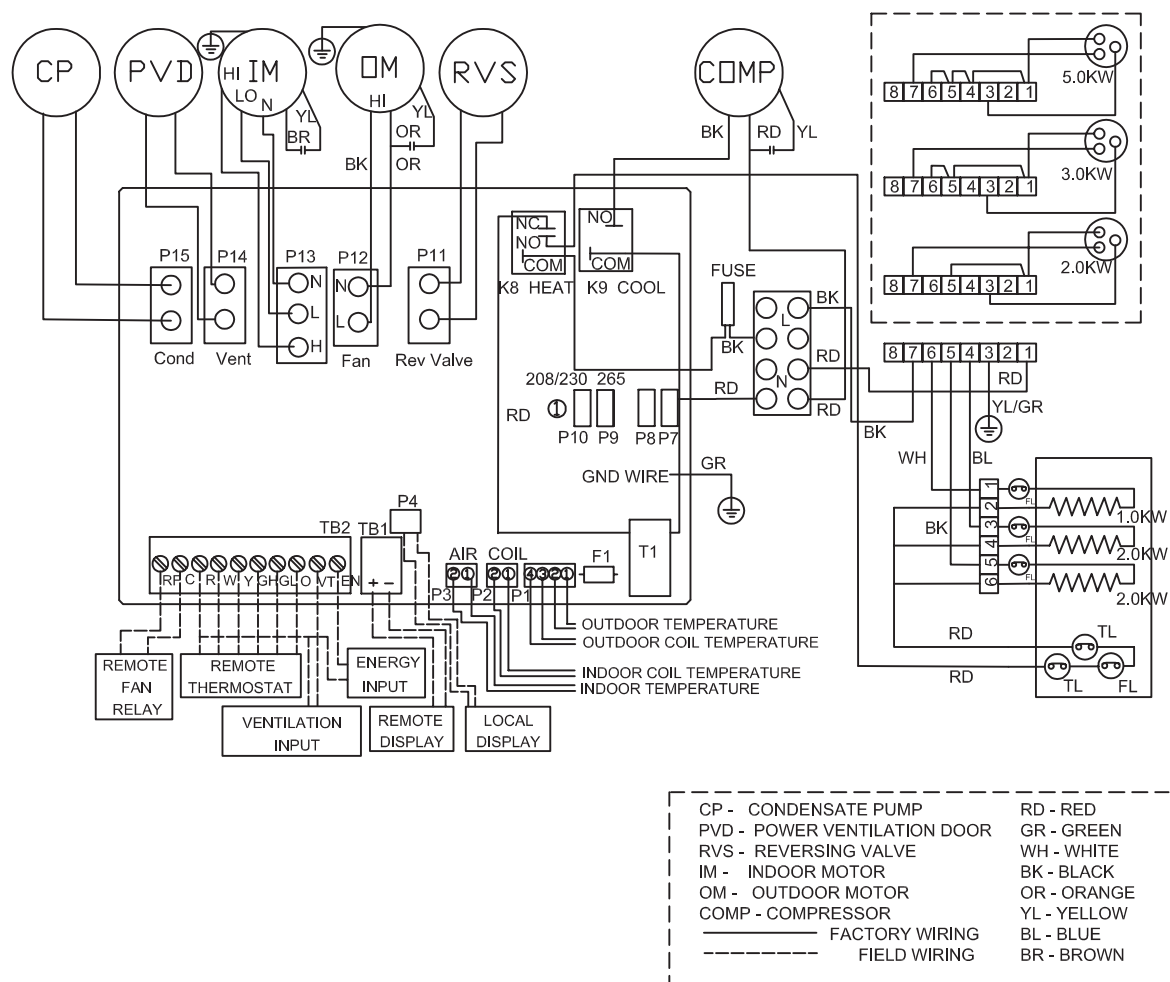
Wiring Diagram



- 1) For 265 VAC unit, connect P8 and P9.
- 2) For cooling only unit, there is no outdoor temperature sensor and reversing valve.
- 3) For different electric heater capacity, refer to IOM for power cord selection.
- 4) The specs for the control board fuse are: 5 x 20mm, 250V, 315mA, fast acting.

Figure 32. 265V Wiring diagram (07 models)

Wiring Diagram



- 1) For 265 VAC unit, connect P8 and P9.
- 2) For cooling only unit, there is no outdoor temperature sensor and reversing valve.
- 3) For different electric heater capacity, refer to IOM for power cord selection.
- 4) The specs for the control board fuse are: 5 x 20mm, 250V, 315mA, fast acting.

Figure 33. 265V Wiring diagram (09, 12, 15)

Wiring Diagram

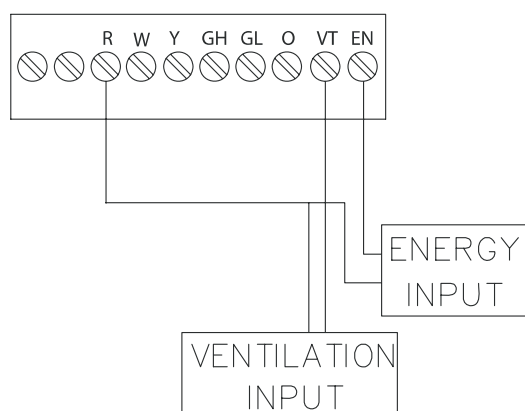


Figure 37. Energy management system

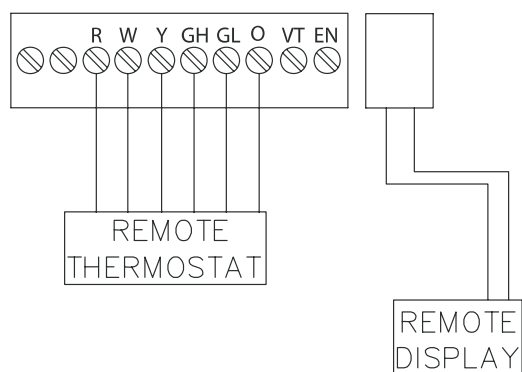


Figure 38. 3rd party class 2 thermostat wiring

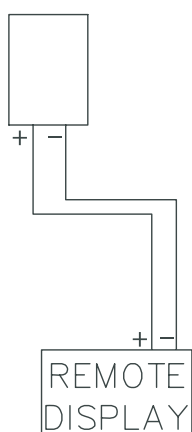


Figure 39. Remote display wiring

Warranty

Full 1st Year Warranty

Haier will repair or replace any part which proves to be defective due to workmanship or materials, free of charge. This includes parts and labor.

Full 2nd - 5th Sealed System Warranty

Haier will repair or replace the evaporator, condenser, compressor, or connecting tubing which proves to be defective due to workmanship or materials, free of charge. This includes parts and labor.

Limited 2nd through 5th Year Functional Parts Warranty

During the 2nd through 5th year, Haier will provide functional parts which prove to be defective due to workmanship or materials.

Components covered are switches, solenoids, fan motors, thermistors, circuit boards, factory installed heaters, blower wheel, fan propeller, capacitors, compressor overloads and drain valves.

This limited warranty does not include diagnostic time, labor or any transportation and/or reinstallation charges that may be required.

Telephone numbers

For Service: 1-877-337-3639

For Technical Assistance: 1-866-713-9342

Installation Guide

Packaged Terminal Air Conditioner Power Cord

NOTICE: Warnings and Cautions appear at appropriate sections throughout this literature. Read them carefully.



WARNING:

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION:

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

CAUTION:

Indicates a situation that may result in equipment or property-damage only accidents.

Receiving

Upon receipt of the product, inspect the shipping carton for signs of visible damage. Report any damage or shortage to the carrier, and note it on the delivery receipt. Unit must be stored in its original shipping carton in a dry, secure place prior to its installation and use.

General Information



WARNING Hazardous Voltage w/ Capacitors!

Disconnect all electric power, including remote disconnects before servicing. Follow proper lockout/tagout procedures to ensure the power can not be inadvertently energized. Failure to disconnect power before servicing could result in death or serious injury. Discharge all capacitors before servicing. Verify with an appropriate voltmeter that all capacitors have discharged. Failure to disconnect power and discharge capacitors before servicing could result in death or serious injury.

This power cord accessory can be used to connect a PTAC unit to the building power supply. See Table 1 for a description of available power cord accessory kits.

230/208 Volt Electrical Supply

A power cord accessory installed on 230/208 volt model PTAC units can be plugged into a receptacle mounted in the wall, floor, or subbase. The correct accessory is determined from Table 1.

All wiring must be in accordance with the NEC and local codes, ordinances and regulations.

265 Volt Electrical Supply

The 265 volt model PTAC unit must be permanently connected to the building power supply in accordance with the National Electrical Code. A power cord accessory installed on a 265 volt model PTAC unit can be plugged into a receptacle mounted in the subbase (sold separately).

Subbase accessories provide an enclosure for permanent connection. Instructions provided with the subbase must be carefully followed. It is the responsibility of the installer to ensure that connections are done in accordance with these instructions and all electrical codes.

The correct power cord accessory is determined from Table 1. DO NOT plug this power cord into a wall or floor mounted electrical receptacle and leave the cord exposed. This type of connection is not permitted by the National Electric Code.

Installation

Power Cord Installation

1. Disconnect power to the PTAC unit.
2. Remove the plastic front cover.
3. Remove the power cord cover. See Figure 1.

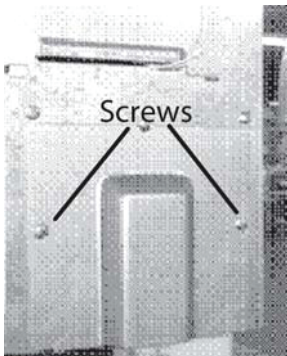


Figure 1. Power cord cover

4. Install the power cord into the connector on the PTAC unit until the top and bottom tabs engage. See Figure 2.



Figure 2. Connector installation

5. Remove the power cord strain relief, and wrap it around the power cord. Reconnect the strain relief to the PTAC unit. See Figure 3.

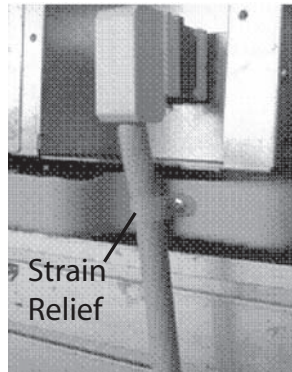


Figure 3. Strain relief

6. Reinstall the power cord cover. See Figure 4.

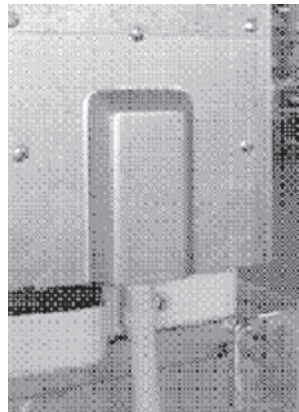


Figure 4. Power cord cover

7. Reinstall the plastic front cover on to the PTAC unit.

The manufacturer has a policy of continuous product and product data improvement and reserves the right to change design and specifications without notice.